FIG. 1

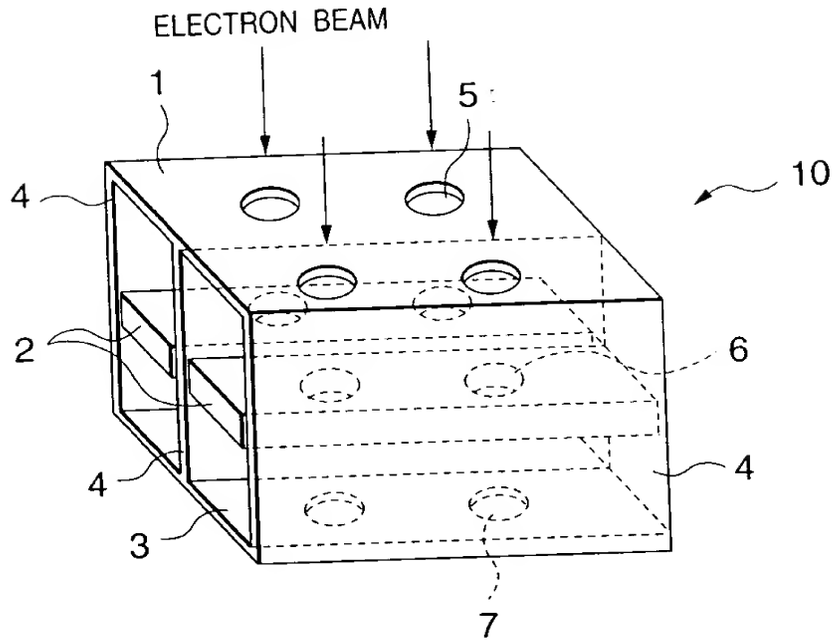


FIG. 2A

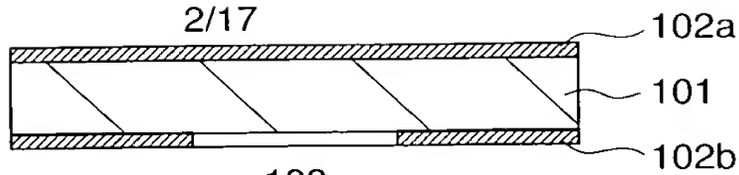


FIG. 2B

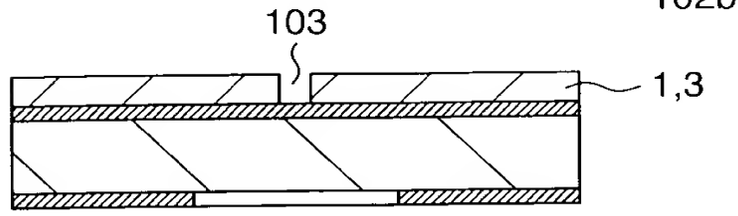


FIG. 2C

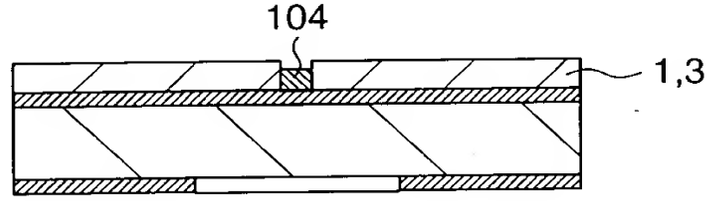


FIG. 2D

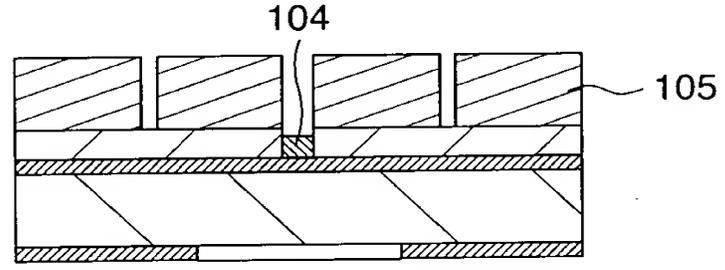


FIG. 2E

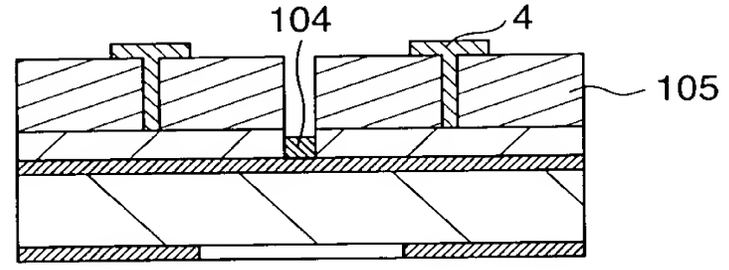


FIG. 2F

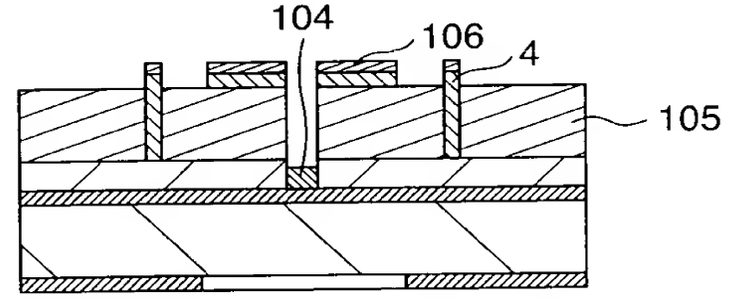


FIG. 2G

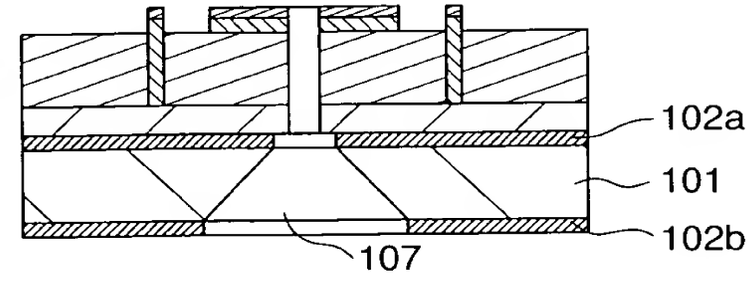


FIG. 3A

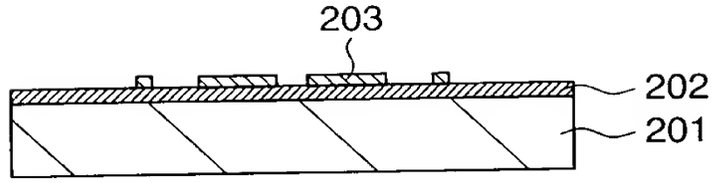


FIG. 3B

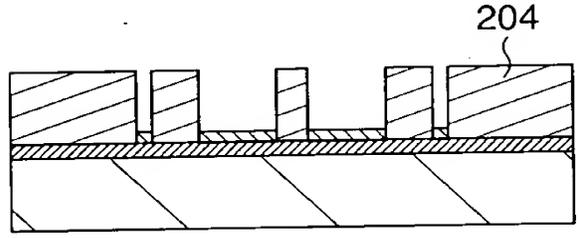


FIG. 3C

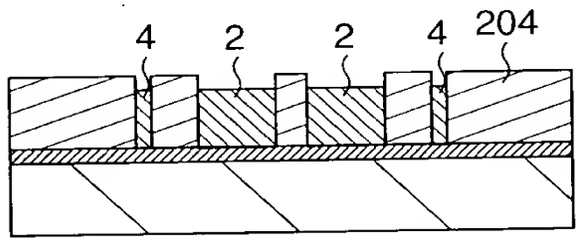


FIG. 3D

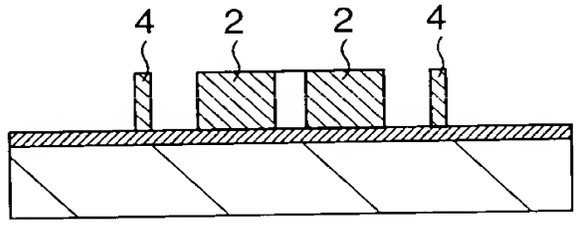


FIG. 4A

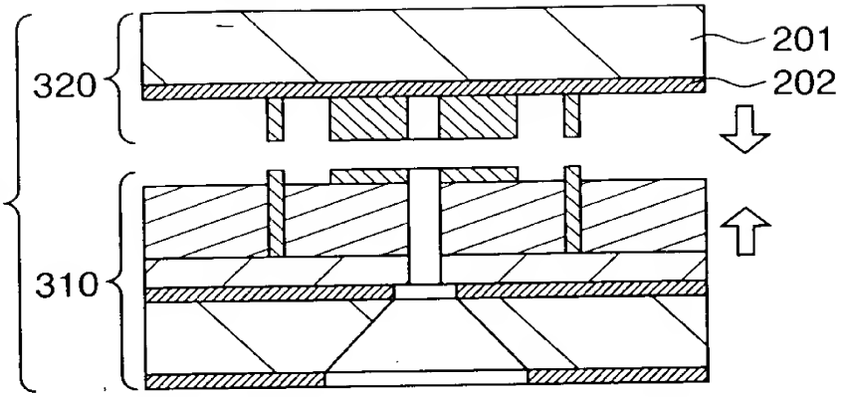


FIG. 4B

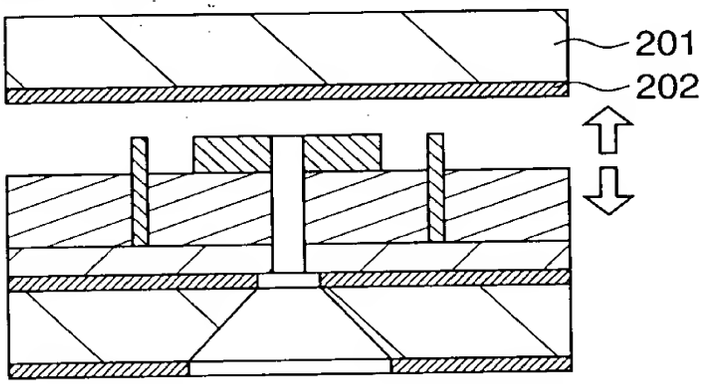


FIG. 4C

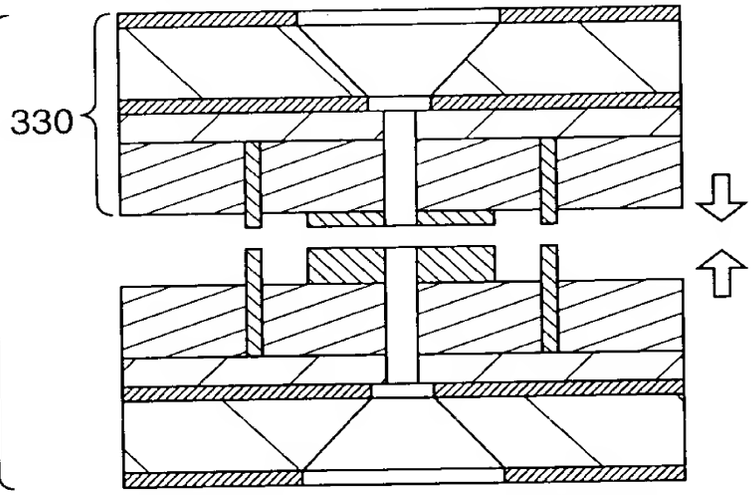


FIG. 4D

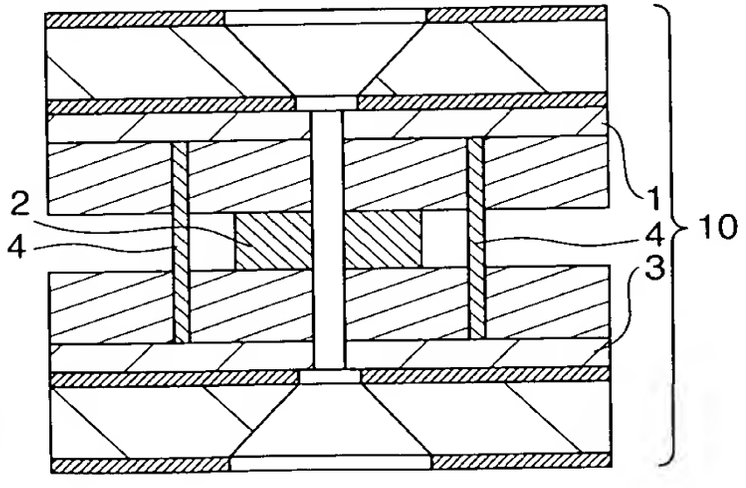


FIG. 5

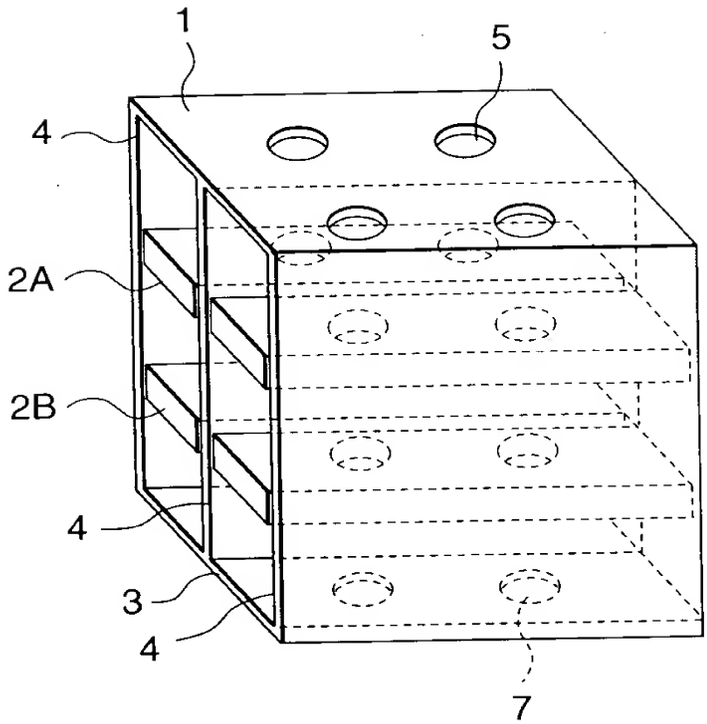


FIG. 6

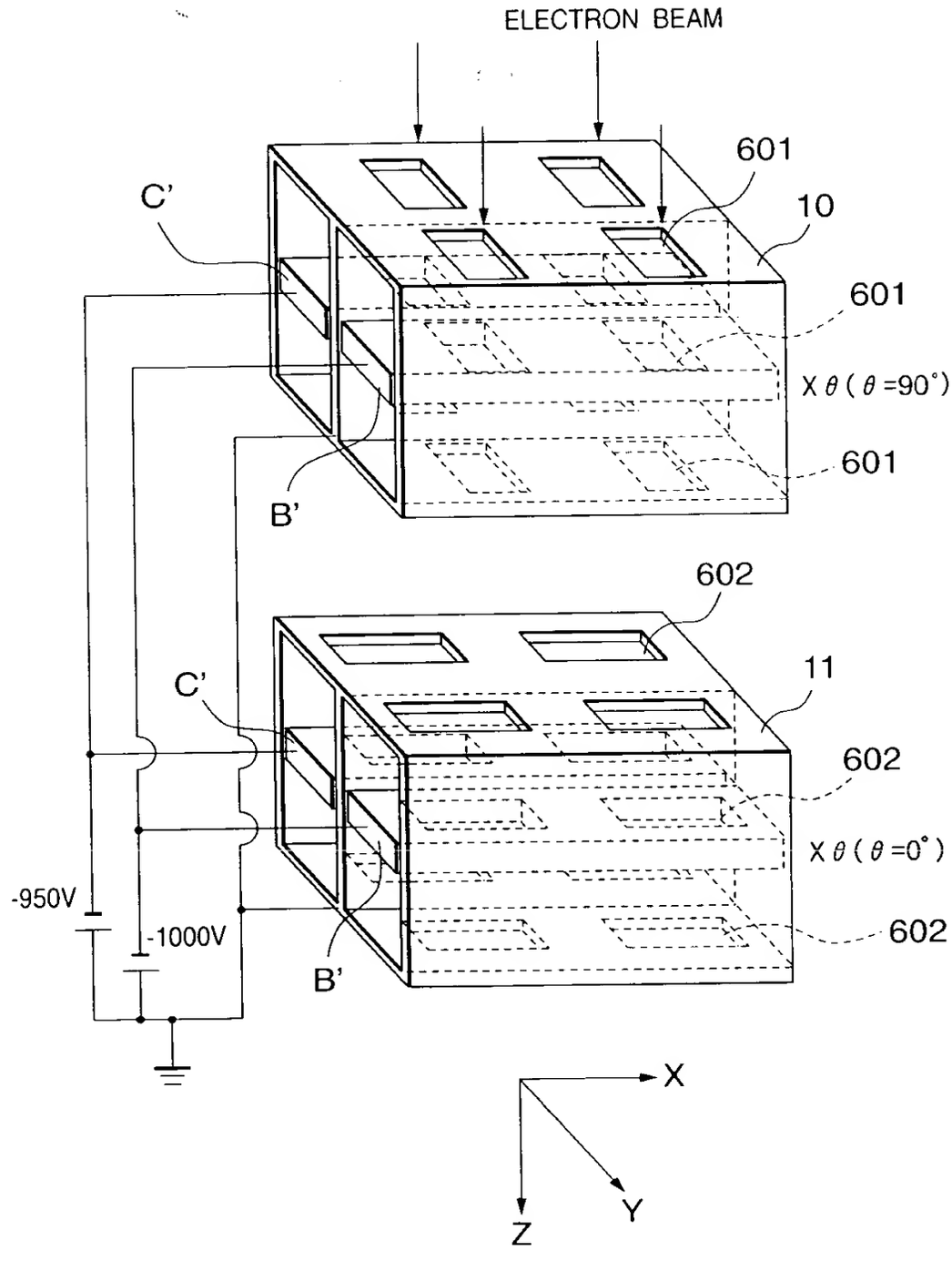

ELECTRON BEAM
601
10
C'
601
Xθ(θ=90°)
601
B'
602
11
C'
602
Xθ(θ=0°)
602
-950V
-1000V
B'
X
Y
Z

FIG. 7A

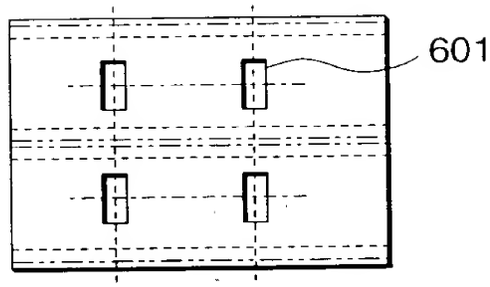


FIG. 7B

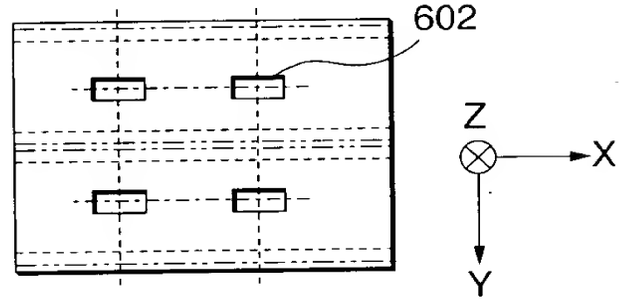


FIG. 7C

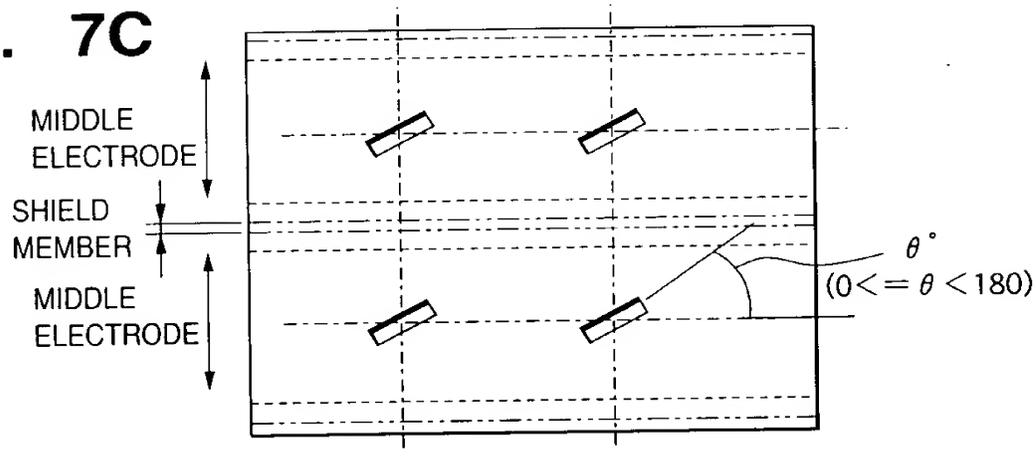


FIG. 7D

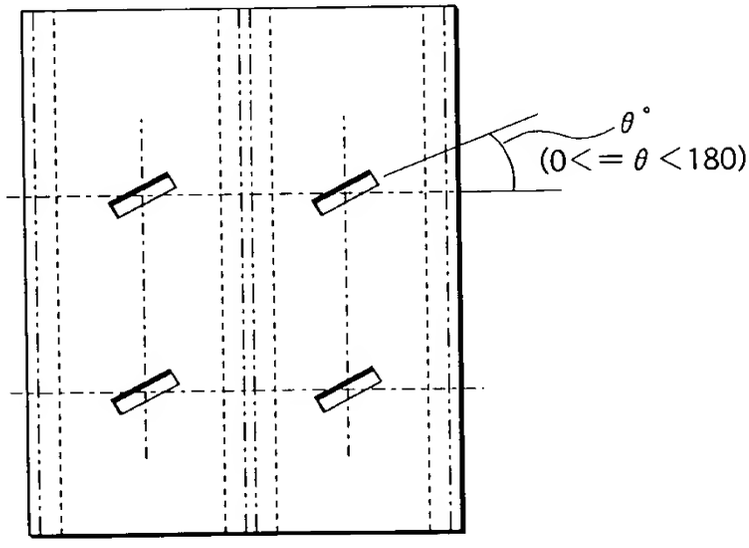


FIG. 8

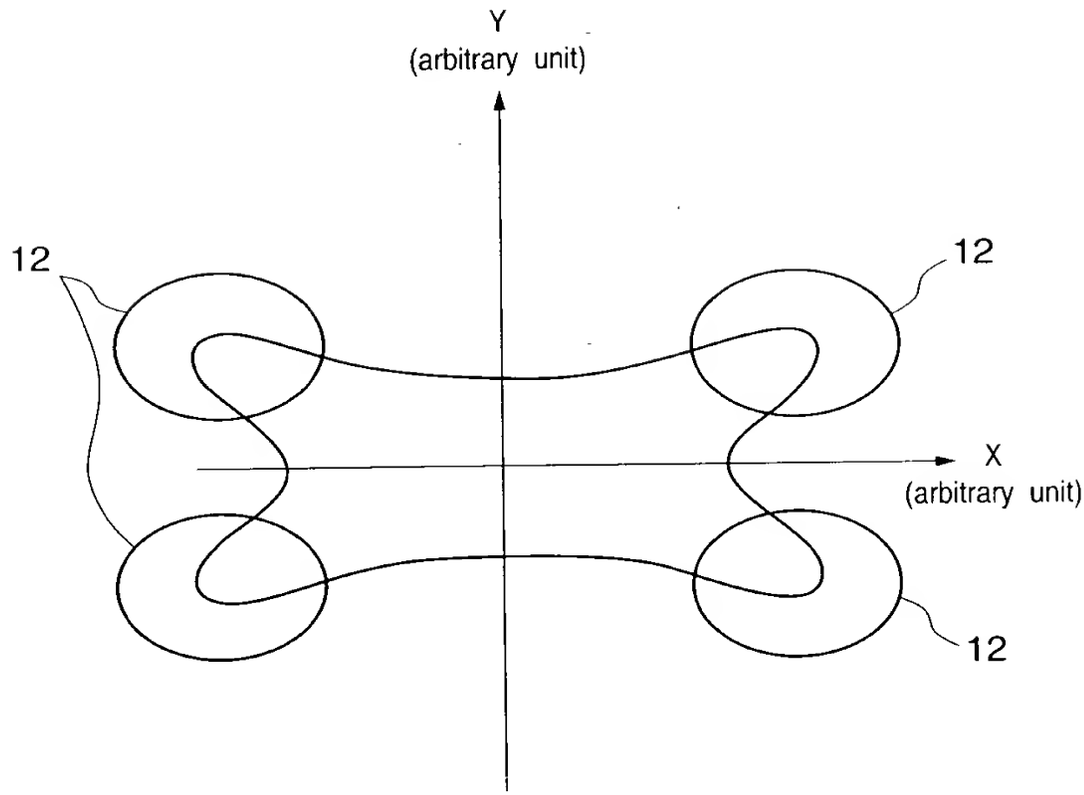


FIG. 9

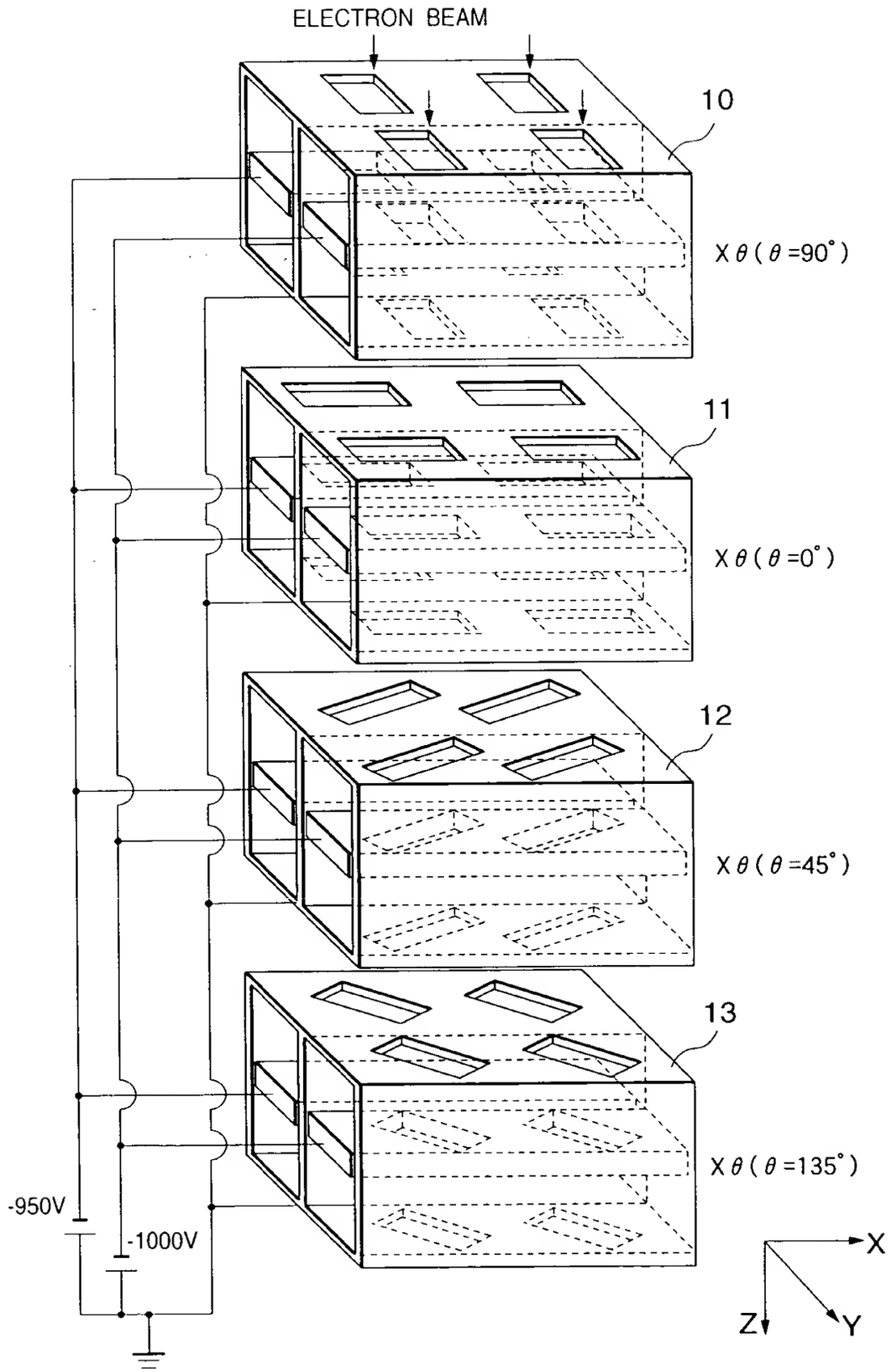

ELECTRON BEAM
10
Xθ(θ=90°)
11
Xθ(θ=0°)
12
Xθ(θ=45°)
13
Xθ(θ=135°)
-950V
-1000V
X
Z
Y

FIG. 10

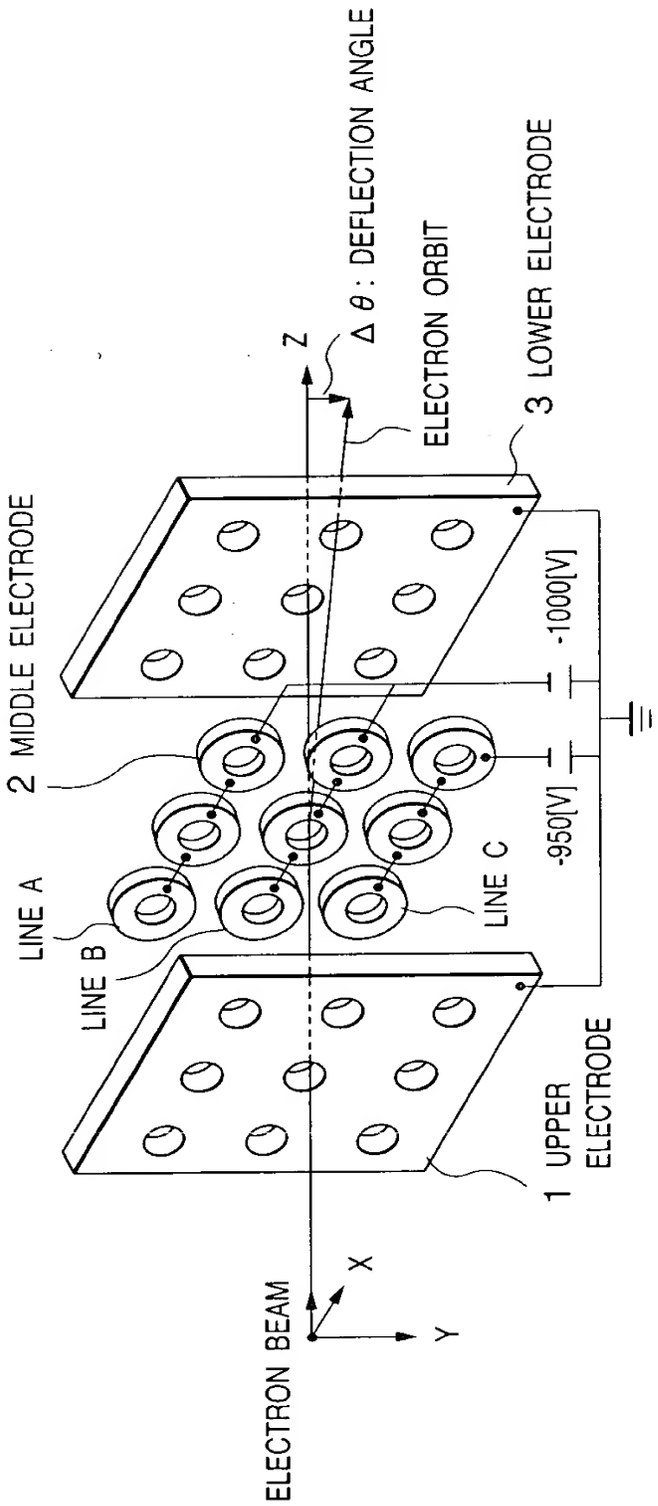

ELECTRON BEAM
X
Y
Z
Δ θ: DEFLECTION ANGLE
ELECTRON ORBIT
1 UPPER ELECTRODE
2 MIDDLE ELECTRODE
3 LOWER ELECTRODE
LINE A
LINE B
LINE C
-950[V]
-1000[V]

FIG. 11

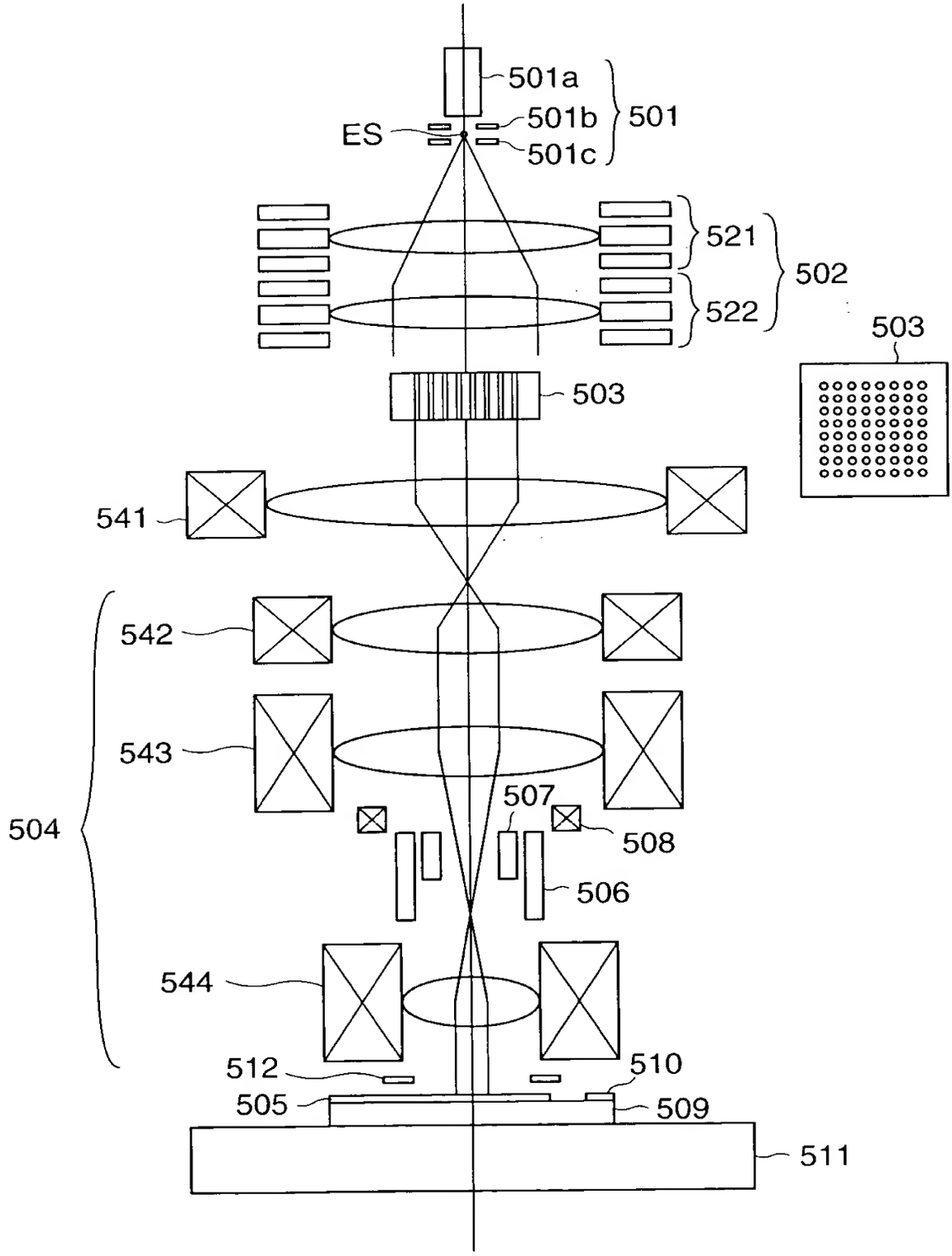

501a
501b
501c
501
ES
521
522
502
503
503
541
542
543
504
507
508
506
544
512
510
505
509
511

FIG. 12A

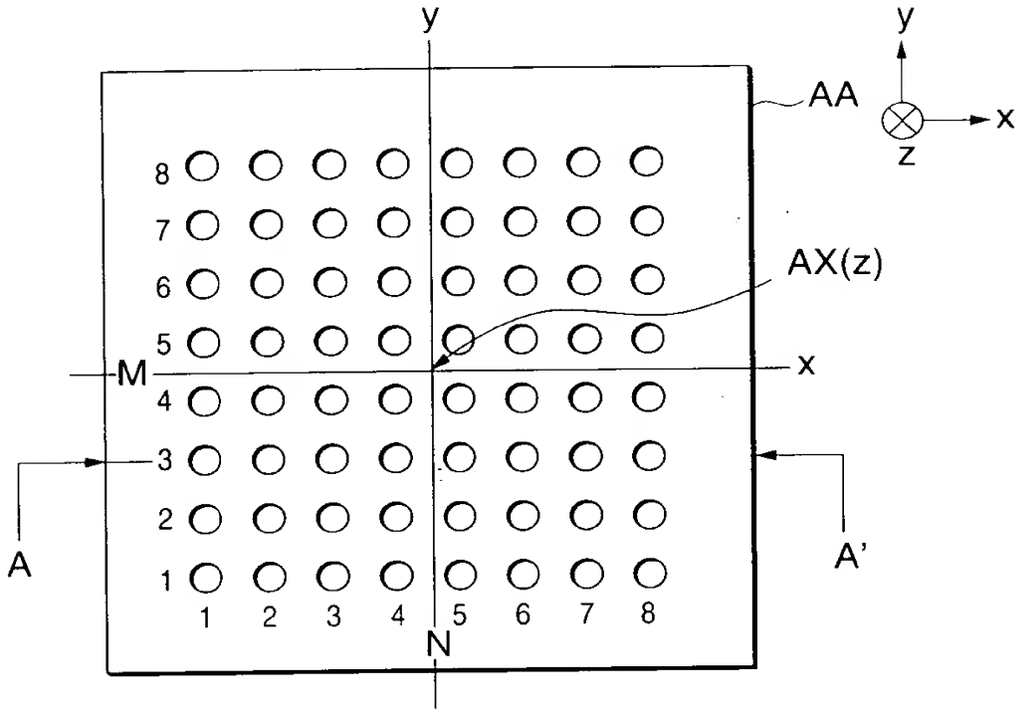


FIG. 12B

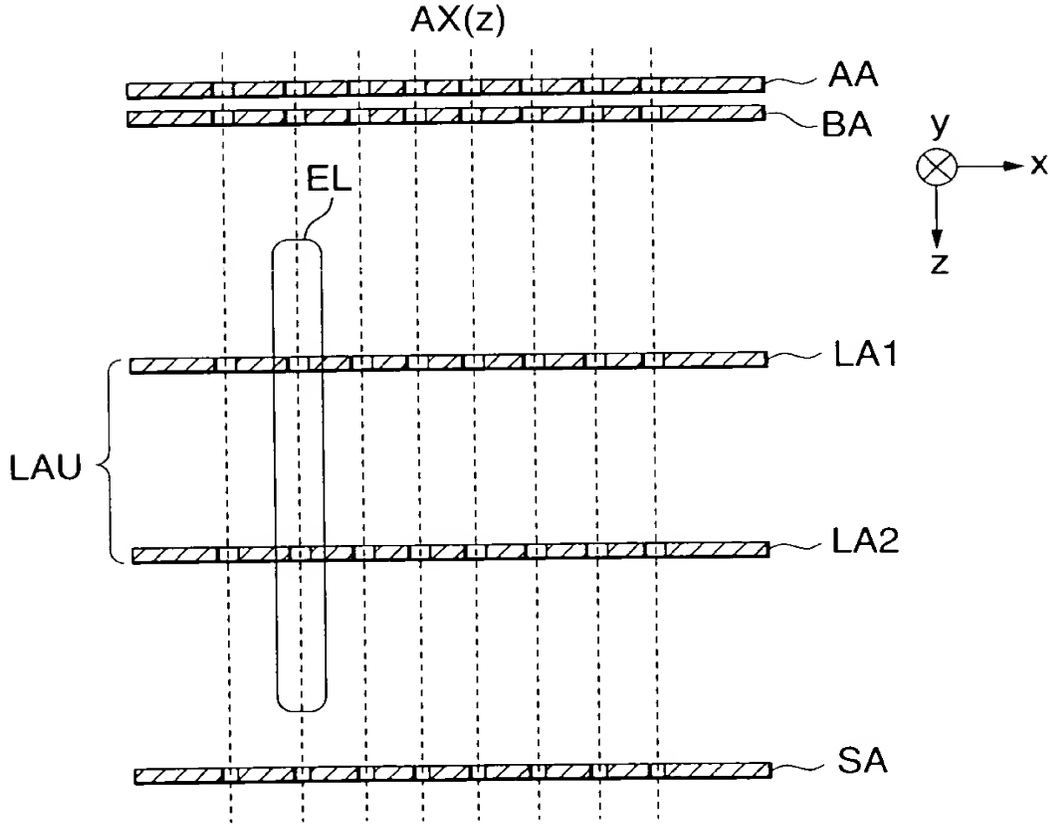


FIG. 13

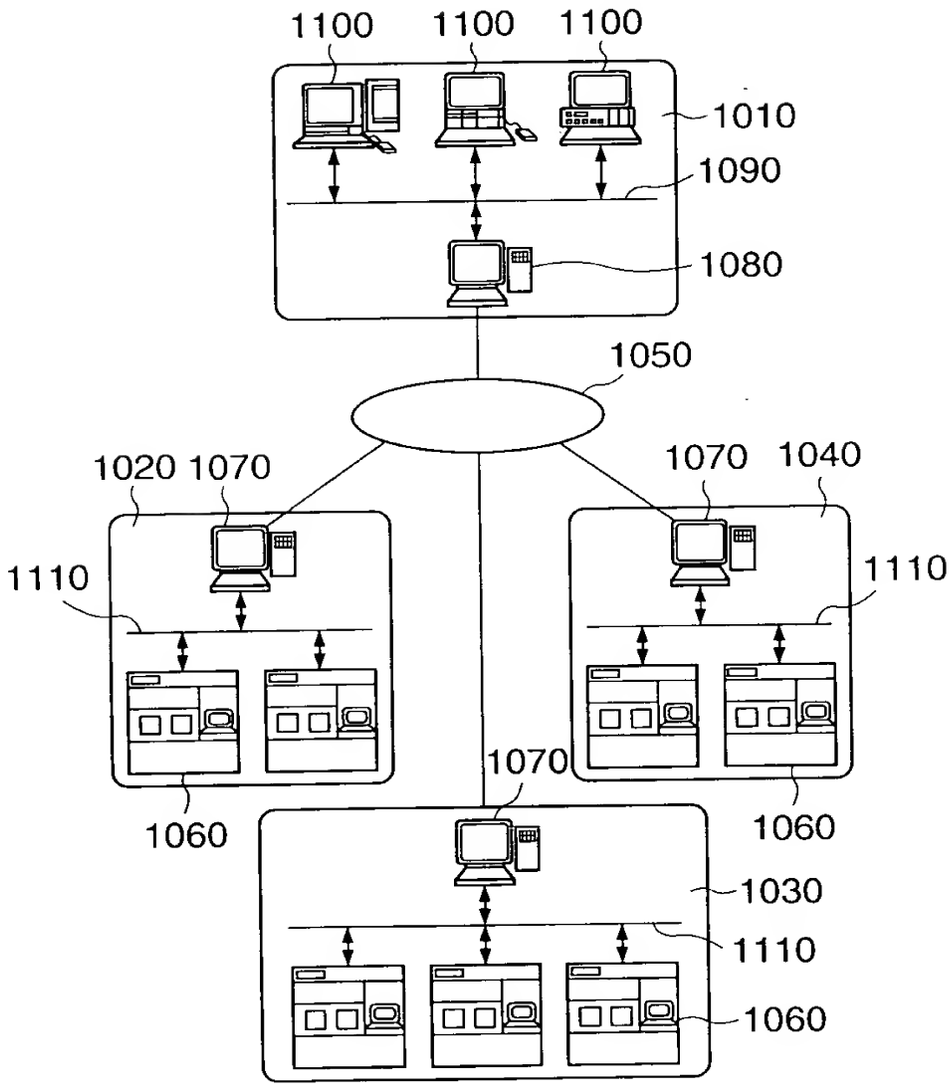

1100
1100
1100
1010
1090
1080
1050
1020
1070
1070
1040
1110
1110
1070
1060
1060
1030
1110
1060

FIG. 14

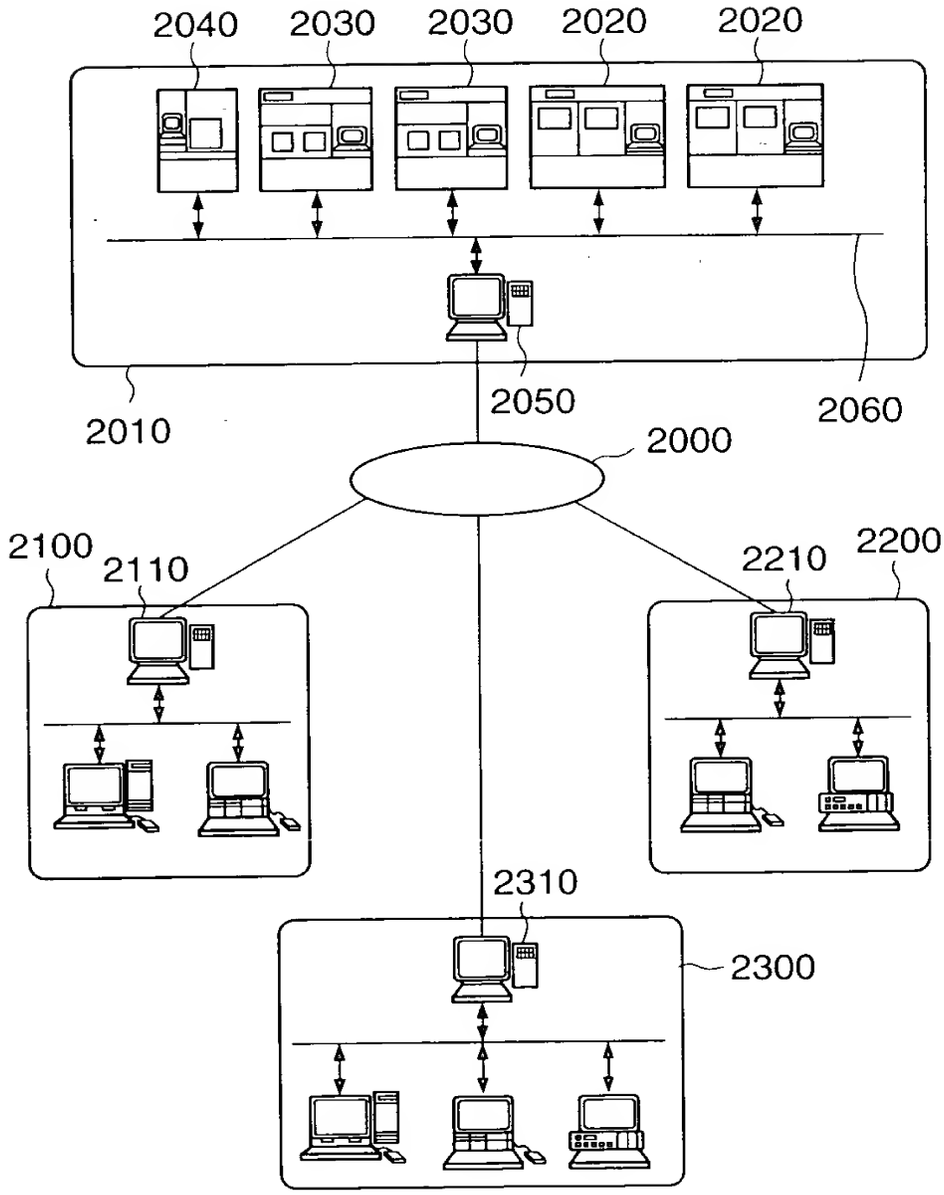

2040
2030
2030
2020
2020
2010
2050
2060
2000
2100
2110
2210
2200
2310
2300

FIG. 15

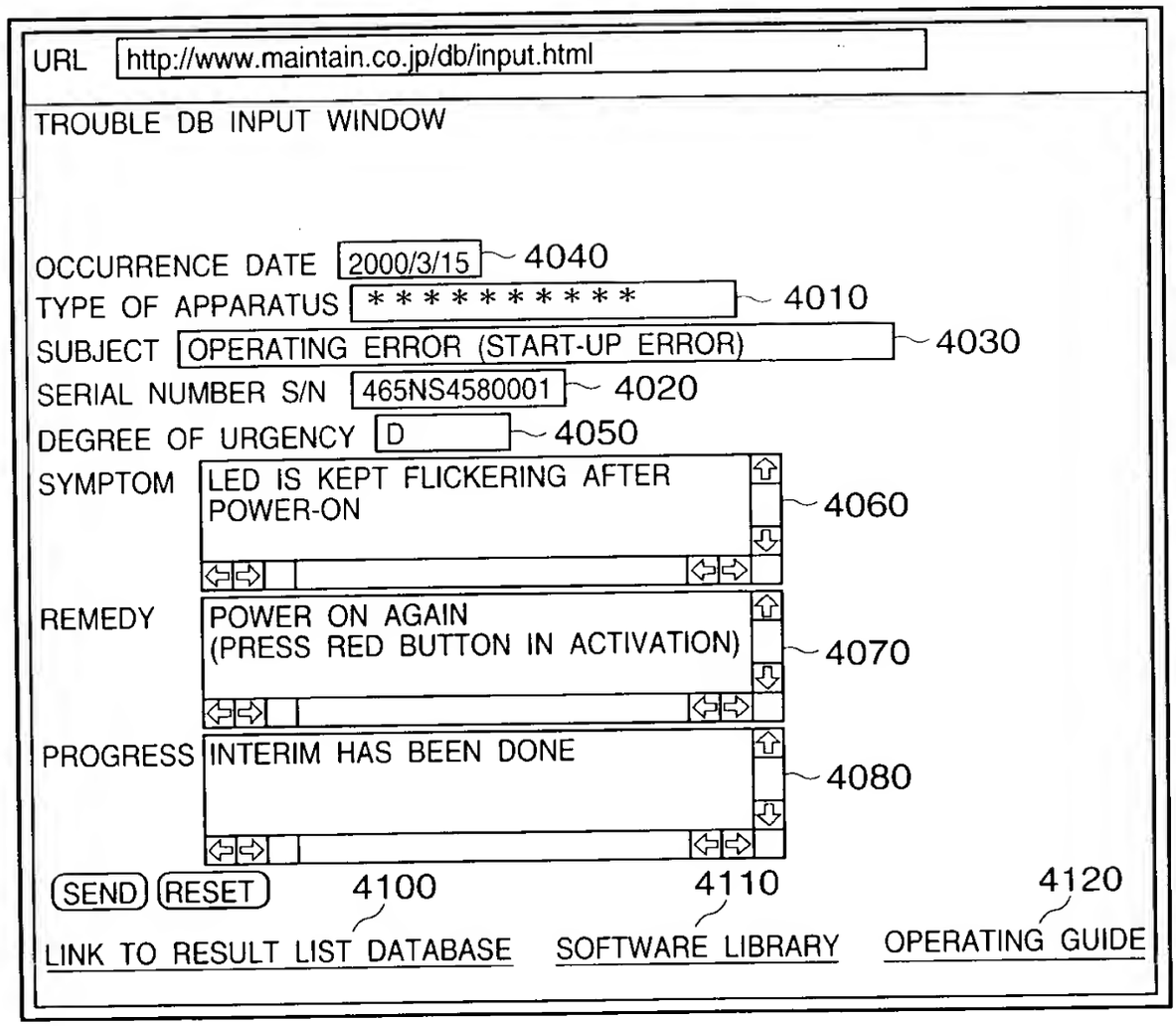

URL http://www.maintain.co.jp/db/input.html
TROUBLE DB INPUT WINDOW
OCCURRENCE DATE 2000/3/15
4040
TYPE OF APPARATUS **********
4010
SUBJECT OPERATING ERROR (START-UP ERROR)
4030
SERIAL NUMBER S/N 465NS4580001
4020
DEGREE OF URGENCY D
4050
SYMPTOM LED IS KEPT FLICKERING AFTER POWER-ON
4060
REMEDY POWER ON AGAIN (PRESS RED BUTTON IN ACTIVATION)
4070
PROGRESS INTERIM HAS BEEN DONE
4080
SEND
RESET
4100
4110
4120
LINK TO RESULT LIST DATABASE
SOFTWARE LIBRARY
OPERATING GUIDE

FIG. 16

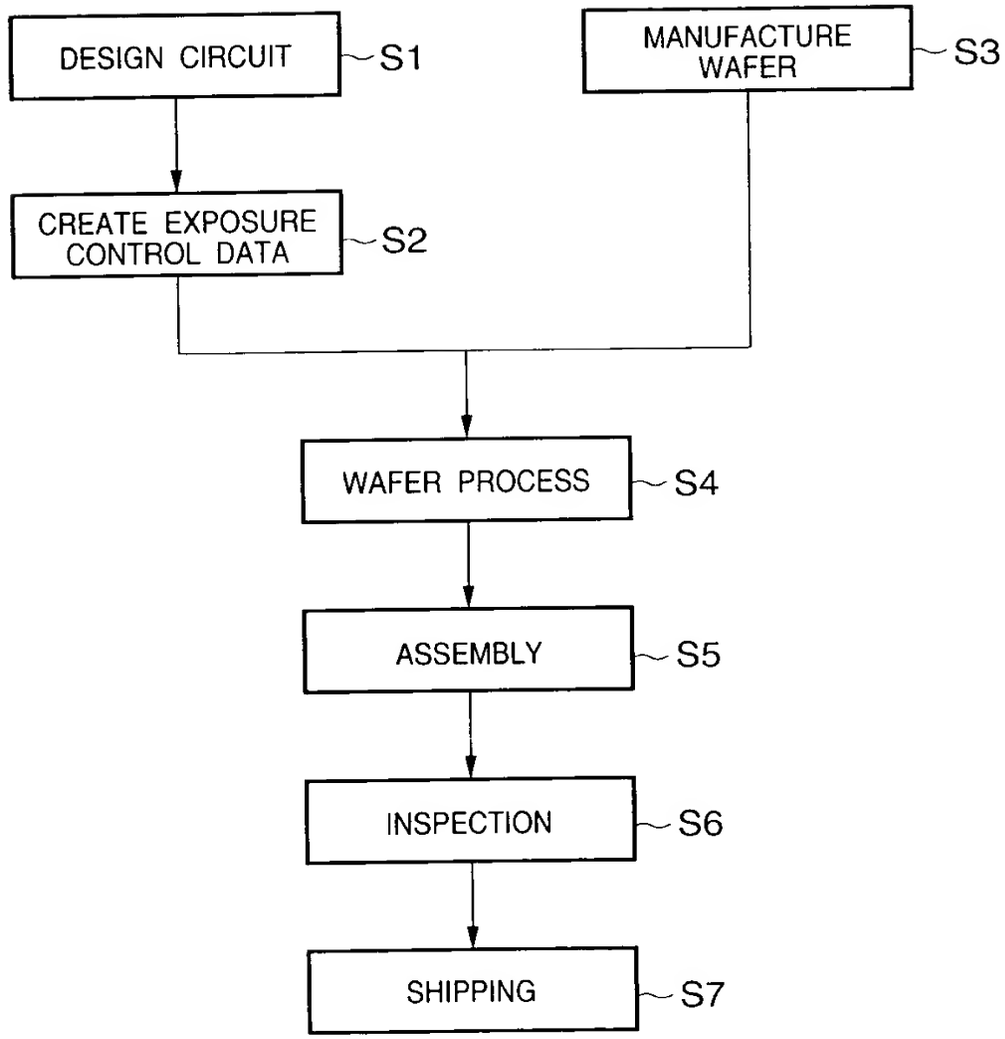
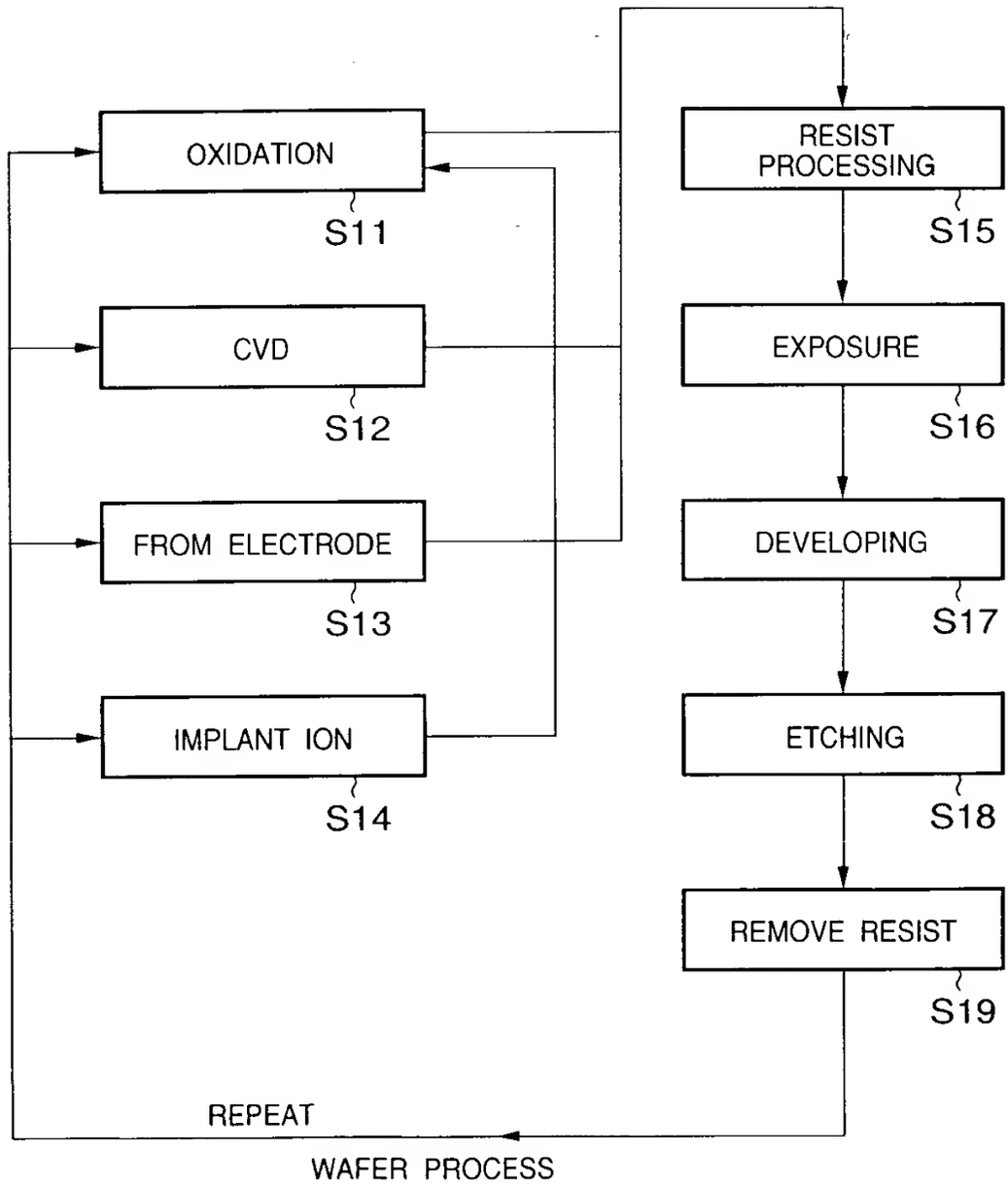

DESIGN CIRCUIT
S1
MANUFACTURE WAFER
S3
CREATE EXPOSURE CONTROL DATA
S2
WAFER PROCESS
S4
ASSEMBLY
S5
INSPECTION
S6
SHIPPING
S7

FIG. 17


OXIDATION
S11
CVD
S12
FROM ELECTRODE
S13
IMPLANT ION
S14
RESIST PROCESSING
S15
EXPOSURE
S16
DEVELOPING
S17
ETCHING
S18
REMOVE RESIST
S19
REPEAT
WAFER PROCESS